

US-PAT-NO: 5776619

DOCUMENT-IDENTIFIER: US 5776619 A

TITLE: Plate stock

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Brief Summary Text - BSTX (6):

The prior art is replete with examples of paper and paperboard coated with various compositions to impart selected characteristics, such as high gloss, ink receptivity, porosity and brightness to the finished product made from the coated paper or board. Generally, such coating compositions contain a pigment, a binder or adhesive, and a polymer latex. The process for coating paper disclosed in U.S. Pat. No. 4,154,899 to Hershey et al. describes a coating composition including a clay, at least 80% by weight of which has particles less than 2 microns, a water soluble or dispersible adhesive or binder, preferably starch, and a polymer latex of styrene/butadiene or acrylic polymers. Improvements in porosity, levelness, smoothness, and ease of finishing are produced in the graphic arts printing papers produced by this coating process. This patent does not suggest a coating composition or process suitable for producing a coated paperboard with improved grease, oil and cut resistance or increased varnish gloss suitable for forming food containers. U.S. Pat. No. 4,806,167 to Raythatha discloses coating paper or board useful for printing with a coating composition containing an aggregated kaolinitic pigment and a calcium carbonate aggregation enhancing agent to improve light scattering characteristics. It is not suggested, however, that this coating composition could be useful, either alone or in combination with a polymer latex, to improve the grease, oil or cut resistance or printing quality of paperboard to be formed into rigid food containers.

Detailed Description Text - DETX (6):

Several different polymer formulations were investigated for forming the latex portion of the coating composition of the present invention. A polyvinyl acetate/acrylate polymer latex in the top coat and a styrene butadiene latex in the base coat currently used in a packaging grade application were tested, but were found to produce a plate coating with poor plate properties, especially grease resistance. Two different ethylene vinyl acetate polymers, one in

combination with polyvinyl alcohol and one in combination with ethylene vinyl chloride, were also evaluated. These latexes produced reasonable plate properties, but were inferior to a styrene acrylic based latex. The latex polymer that produced the best functional properties in the finished products was a styrene acrylic based latex. As long as a styrene acrylic polymer latex is used to form the top coat, other polymer latexes can be used to form the base coat, and benefits of the present invention will be obtained.